Car Recommendation Expert System

WID2001
Knowledge Representation and Reasoning

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Introduction

- Frame
  - represent stereotypical knowledge about a particular object or concept
  - object, attribute and value
  - generic and inherited
  - combine both declarative and procedural knowledge
  - can be developed using object-oriented programming languages such as Java

Aim and Objectives

- To apply the knowledge of frame that we learned in class to make the system
- To apply the concept of frame in a real object
- To represent the object and its attributes in a user friendly manner

Problem Statement

- eases the process in representing the information
- attributes and values of a certain class can be inherited to the instances
- save time and much easier compared to store the same information from the main class or superclass every time a new class is created

Scope

- focus on two brands of Malaysia cars, Proton and Perodua
- search engine might showing results that less relevant and not precise.
- analysis on brand that user prefer, type of car and user's budget

DESIGN
(frame and rules sets)

SuperClass

Class : Car
Brand Proton Perodua
Car Type Sedan Hatchback MPV
Name Saga Perdana Persona Prevé Suprima S Iriz Exora Ertiga Bezza Alza Axia Myvi
Price RM24000 - RM68110

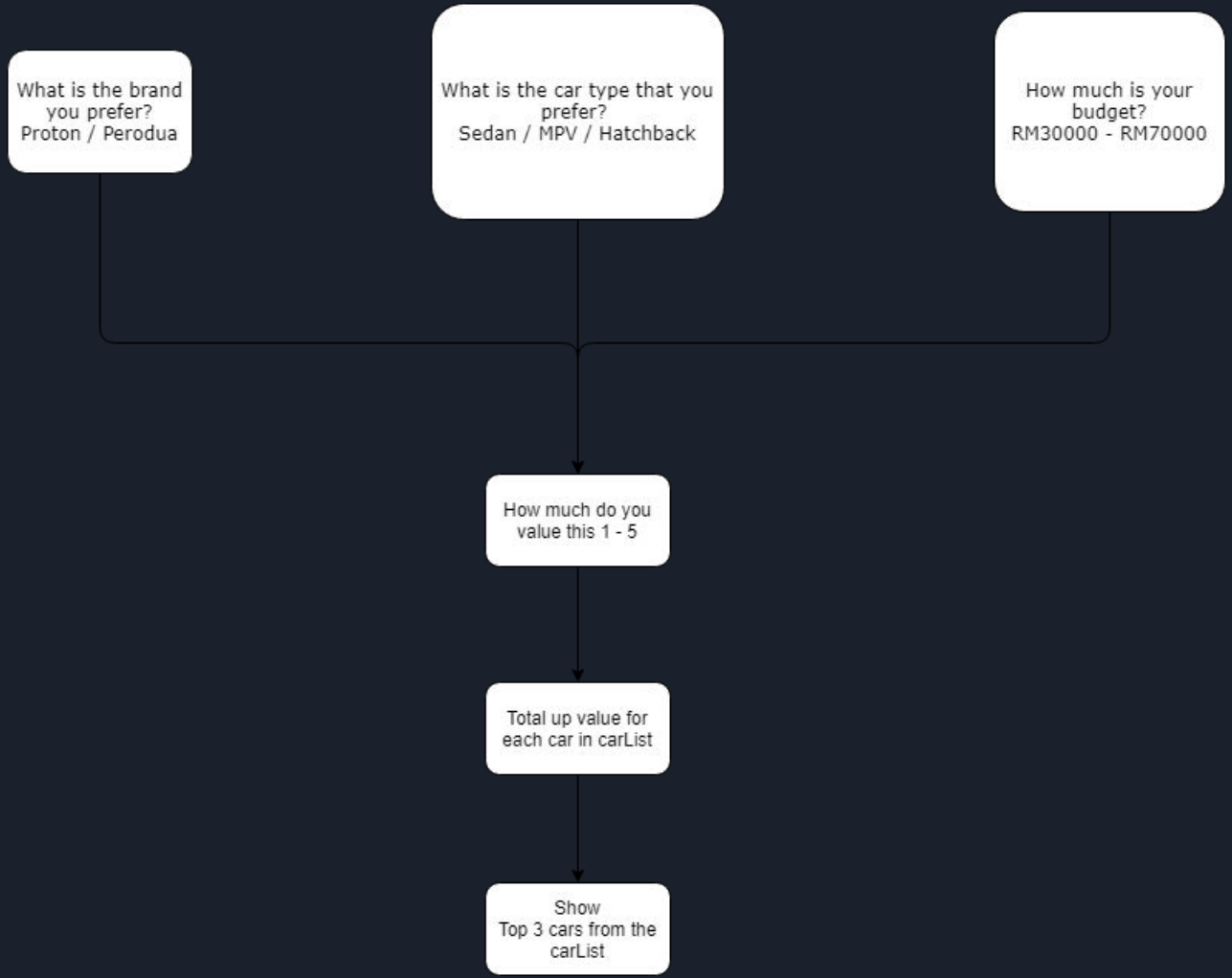
Subclassess

Class: Alza
Superclass: Car
Brand Perodua
Car Type MPV
Price RM50605-RM62900
Type 1.5 S 1.5 SE 1.5 Advance
Transmission Auto Manual
Audio Radio & USB & Bluetooth Full with navigation
Seat Material Fabric SE Fabric Leather
Shopping Hook Without With

Class: Axia
Superclass: Car
Brand Perodua
Car Type Hatchback
Price RM24000-RM41500
Type Standard E Standard G
Transmission Auto Manual
Fuel consumption 21.6 22.5
Audio No Radio & USB Radio & USB & Bluetooth
Seat material Fabric SE Fabric Leather
Rear sensor No

Class: Myvi
Superclass: Car
Brand Perodua
Car Type Hatchback
Price RM44300-RM55300
Type G H X AV
Engine Size 1.3 1.5
Transmission Auto Manual
Fuel consumption 20.1 20.5
Audio Radio & USB Radio & USB & Microphone Full with navigation
Eco Idle No Yes
Reverse camera No Yes

Class: Bezza
Superclass: Car
Brand Perodua
Car Type Sedan
Price RM35500-RM49200
Type GXTRA PREMIUM X ADVANCE
Engine Size 1.0 1.3
Transmission Auto Manual
Fuel Consumption 21 21.3 21.7 22 22.8
Audio Radio & USB & Bluetooth Full with navigation
Seat Material Fabric Leather
Rear Headphone Slot Yes Yes + USB


What is the brand you prefer?
Proton / Perodua
What is the car type that you prefer?
Sedan / MPV / Hatchback
How much is your budget?
RM30000 - RM70000
How much do you value this 1 - 5
Total up value for each car in carList
Show
Top 3 cars from the carList

Algorithm and Technique

- Relationship of the frame: AKO

  e.g. Car (superclass) and Axia (subclass)
- Procedural Informations (Demon): IF-NEEDED

  e.g. Price
- Iteration

  to ensure inference engine keep running

DEMO

QnA Session